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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/544,197	08/02/2005	Marcel Breeuwer	NL 030134	8270

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EXAMINER	
ABDI, AMARA	

ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
09/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/544,197	BREEUWER ET AL.	
	Examiner	Art Unit	
	Amara Abdi	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 August 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's response to the last office action, filed July 02, 2007 has been entered and made of record.

2. In view of the Applicant Arguments, the objection to the specification because of lack in an Abstract is expressly withdrawn.

3. In view of the Applicant Arguments, the objection to the specification for suggested format for the arrangement of the disclosure is expressly withdrawn.

4. In view of the Applicant amendments, the objections to the claims 1-9 are expressly withdrawn.

5. In view of the Applicant amendments, the rejection of claims 1-9 under *35 USC § 112* is expressly withdrawn.

6. In view of the Applicant amendments, the rejection of claim 9 under *35 USC § 101* is expressly withdrawn.

7. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which

was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. "said analysis yielding a result" was recited in claims 1 and 9 and does not have any support from the specification, therefore it is considered as a new matter.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiya et al. (US 5,648,652) in view of Fox et al. (US 6,083,167).

(1) Regarding claims 1 and 9:

Sekiya et al. disclose a method and apparatus and computer program (column 18, line 67, and column 19, line 1) to evaluate the best image plane position for an optical lens system (see the Abstract), comprising:

delivering the quantitative evaluation (column 6, line 17-19) as an output (column 21, line 2-5),

performing an error analysis in order to provide information relating to the accuracy of the quantitative analysis evaluation (column 20, line 49-57), (the

measurement of error is read as an error analysis), and the analysis is yielding a result (column 10, line 8-9), (the yielding of the result is read as the displaying of the result).

delivering the result as further output (column 21, line 2-5).

Sekiya et al. do not explicitly mention the medical image, and the deriving of the quantitative evaluation.

Fox et al., in analogous environment, teaches a systems and methods for providing radiation therapy and catheter guides, where using a medical image (column 9, line 15), and deriving the quantitative evaluation (column 17, line 7-8), (the deriving of quantitative dose evaluation is read as the same concept as the deriving of the quantitative evaluation).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Fox et al., where deriving the quantitative evaluation, in the system of Sekiya et al. in order to enable the precise determination of a catheter's location and orientation (column 5, line 16-19).

12. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiya et al. and Fox et al., as applied to claim 1 above, and further in view of Lauenstein et al. (US-PGPUB 2004/0241093).

(1) Regarding claim 2:

Sekiya et al. and Fox et al. disclose all the subject matter as described in claim 1 above.

Sekiya et al. and Fox et al. do not explicitly mention the identification of the image artifact, which is calculated, and where the image artifact has an influence on the accuracy of the quantitative evaluation.

Lauenstein et al., in analogous environment, teaches a formulation for use in medical and diagnostic procedures, where identifying the image artifacts (paragraph [0095], line 2), and measuring the influence of the image artifacts on the accuracy of the quantitative evaluation (paragraph [0097], line 2-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Lauenstein et al., where identifying the image artifacts, in the system of Sekiya et al. in order to perform gastrointestinal viewing of imaging procedures, such as endoscopies, x-ray imaging, virtual imaging, which include the use of computer software to view the inside of the gastrointestinal tract (paragraph [0020], line 2-6).

(2) Regarding claim 3:

Sekiya et al. and Fox et al. disclose all the subject matter as described in claim 1 above.

Sekiya et al. and Fox et al. do not explicitly mention that the error analysis comprises steps where an image-processing step, which contributes, to the image analysis is identified, where the image processing step has an influence on the accuracy of the quantitative evaluation and is calculated.

Lauenstein et al., in analogous environment, teaches a formulation for use in medical and diagnostic procedures, where identifying the image artifacts (paragraph

[0095], line 2), and measuring the influence of the image artifacts on the accuracy of the quantitative evaluation (paragraph [0097], line 2-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Lauenstein et al., where identifying the image artifacts, in the system of Sekiya et al. in order to perform gastrointestinal viewing of imaging procedures, such as endoscopies, x-ray imaging, virtual imaging, which include the use of computer software to view the inside of the gastrointestinal tract (paragraph [0020], line 2-6).

13. Claims 4-7, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiya et al. and Fox et al. and Lauenstein et al., as applied to claim 2 above, and further in view of Pelletier et al. (US 6,560,476).

(1) Regarding claim 4:

Sekiya et al. and Fox et al. and Lauenstein et al. disclose all the subject matter as described in claim 2 above.

Sekiya et al. and Fox et al. and Lauenstein et al. do not explicitly mention the storage of the results of the calculation of the quantitative evaluation.

Pelletier et al., in analogous environment, teaches an evaluation disease progression using magnetic resonance imaging, where the results are storing the result of the calculation in the segmentation result storage (column 4, line 45-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Pelletier et al., where storing the results in the

segmentation result storage, in the system of Sekiya et al. in order to provide a highly efficient manner, because many aspects of such system are extensively automated, little operator intervention is necessary. These efficiencies can have a significant impact on the cost of large-scale clinical studies, where many patients must be carefully evaluated (column 8, line 55-62).

(2) Regarding claim 5:

Sekiya et al. and Fox et al. and Lauenstein et al. disclose all the subject matter as described in claim 4 above.

Sekiya et al. and Fox et al. and Lauenstein et al. do not explicitly mention the storage of the results of the calculation of the quantitative evaluation in at least one of multidimensional table, a lookup table, or a formula.

Pelletier et al., in analogous environment, teaches an evaluation disease progression using magnetic resonance imaging, where the results are storing the result of the calculation in the segmentation result storage (column 4, line 45-52), and presenting the results of multiple measurements in multidimensional table (column 17, line 8-10), (see tables 2,3, and 4), (the presenting of the multiple measurements in multidimensional table is read as the same concept as the storage of the quantitative evaluation results in multidimensional table).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Pelletier et al., where storing the results in the segmentation result storage in multidimensional table, in the system of Sekiya et al. in order to provide a highly efficient manner, because many aspects of such system are

extensively automated, little operator intervention is necessary. These efficiencies can have a significant impact on the cost of large-scale clinical studies, where many patients must be carefully evaluated (column 8, line 55-62).

(3) Regarding claim 7:

Sekiya et al. and Fox et al. and Lauenstein et al. disclose all the subject matter as described in claim 3 above.

Sekiya et al. and Fox et al. and Lauenstein et al. do not explicitly mention that the image analysis process is at least one of registration, outlier classification, contour placement or segment placement.

Pelletier et al., in analogous environment, teaches an evaluation disease progression using magnetic resonance imaging, where the image analysis process includes a segmentation module (column 10, line 16-18).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Pelletier et al., where the image analysis process includes a segmentation module, in the system of Sekiya et al. in order to provide a highly efficient manner, because many aspects of such system are extensively automated, little operator intervention is necessary. These efficiencies can have a significant impact on the cost of large-scale clinical studies, where many patients must be carefully evaluated (column 8, line 55-62).

14. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiya et al. and Fox et al., and Lauenstein et al., as applied to claim 2 above, and further in view of Wessels et al. (US-PGPUB 2001/0025142).

Sekiya et al. and Fox et al., and Lauenstein et al. disclose all the subject matter as described in claim 2 above.

Sekiya et al. and Fox et al., and Lauenstein et al. do not explicitly mention that the image artifacts are at least one of noise, partial volume effect, sampling rate, or an artifacts due a patient motion.

Wessels et al., in analogous environment, teaches a medical examination apparatus for acquiring patient movements, where the image artifacts are due a patient motion (paragraph [0007], line 6-7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Wessels et al., where the image artifacts are due a patient movement, in the system of Sekiya et al. in order to avoid the motion artifacts in the image by detecting the movements of the patient and undertaking a correction of the image data (paragraph [0007], line 10-12).

15. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiya et al. and Fox et al., as applied to claim 1 above, and further in view of Ryalls et al. (US 5,803,914) and Gupta et al. (US-PGPUB 2003/0065258).

Sekiya et al. and Fox et al. disclose all the subject matter as described in claim 1 above.

Sekiya et al. and Fox et al. do not explicitly mention the following that:

1) the image analysis process that contains at least one medical image is the assessment of cardiac perfusion data; and

2) the quantitative evaluation is the myocardial perfusion reserve index.

(A) Concerning the item 1):

Ryals et al., in analogous environment, teaches a method and apparatus for displaying data in a medical imaging system, where the medical image is the assessment of cardiac perfusion data (column 43, line 30-32).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Ryals et al., where the medical image is the assessment of cardiac perfusion data, in the system of Sekiya et al. in order to provide a physician the ideal mean for analyzing the acquired image data in the diagnosis of coronary artery disease (CAD) by creating functional images representing quantitatively values for both perfusion and function (column 5, line 24-32).

(B) Concerning the item 2):

Cupta et al., in analogous environment, teaches an analysis of cardiac with application to quantifying myocardial perfusion reserve indexes, where the quantitative evaluation is the myocardial perfusion reserve index (paragraph [0025], line 3-6).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Cupta et al., where the quantitative evaluation is the myocardial perfusion reserve index, in the system of Sekiya et al. in order to have an efficient and effective MR (Magnetic Resonance) image registration in blood

oxygenation level dependent magnetic resonance imaging, and particularly for indexing myocardial perfusion reserve (paragraph [0001], line 4-7).

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information:

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amara Abdi whose telephone number is (571) 270-1670. The examiner can normally be reached on Monday through Friday 7:30 Am to 5:00 PM E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wu Jingge can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amara Abdi
08/30/2007

JINGGE WU
SUPERVISORY PATENT EXAMINER